

AMENDMENTS TO THE CLAIMS

1. (currently amended): A multi-stage process for the polymerization of olefins comprising:
 - (I) a first polymerization stage, wherein one or more olefins of the formula $\text{CH}_2=\text{CHR}$, wherein R is selected from the group consisting of hydrogen, a linear or branched, saturated or unsaturated $\text{C}_1\text{-C}_{10}$ alkyl, a cycloalkyl and an aryl radical, are polymerized in one or more reactors, in the presence of a catalyst comprising the product of the reaction between an alkyl-Al compound and a solid component comprising at least one compound of a transition metal M^{I} chosen from Ti and V, and not containing $\text{M}^{\text{I}}\text{-}\pi$ bonds, and a halide of Mg, in order to produce an olefinic polymer having porosity, expressed as the percentage of voids, greater than 5%;
 - (II) a treatment stage, wherein the product obtained in said first polymerization stage (I) is, in any order whatever:
 - (a) optionally contacted with a compound capable of deactivating the catalyst used in stage (I); and
 - (b) contacted with a late transition metal complex, optionally in the presence of a suitable activating agent; and
 - (III) a second polymerization stage, wherein one or more olefinic monomers are polymerized in one or more reactors, in the presence of the product obtained from stage (II)[[.]];wherein the amount of polymer produced in the first polymerization stage (I) is between 10 and ~~90%~~ 99% by weight relative to the total amount of polymer produced in stages (I) and (III).
2. (original): The multi-stage process according to claim 1 wherein, in stage (I), said alkyl-Al compound is a trialkyl-Al, an alkyl-Al halide or an alkyl-Al sesquichloride, said halide of Mg is MgCl_2 and said compound of a transition metal M^{I} is selected from the group consisting of halides of Ti, halo alkoxides of Ti, VCl_3 , VCl_4 , VOCl_3 and halo alkoxides of V.
3. (original): The multi-stage process according to claim 2, wherein said compound of a transition metal M^{I} is selected from the group consisting of TiCl_4 , TiCl_3 and halo

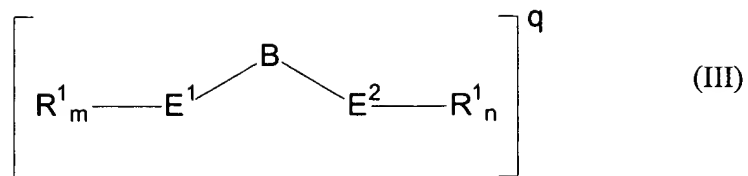
alkoxides of the formula $\text{Ti}(\text{OR}^I)_m\text{X}_n$, wherein R^I is a $\text{C}_1\text{-C}_{12}$ hydrocarbon radical or a $-\text{COR}^I$ group, X is halogen and $(m+n)$ corresponds to the oxidation state of Ti.

4. (original): The multi-stage process according to claim 1 wherein, in stage (I), said solid component is in the form of spherical particles having a mean diameter ranging from 10 μm to 150 μm .
5. (original): The multi-stage process according to claim 1, wherein the catalyst used in stage (I) comprises the product of the reaction between an Al-alkyl compound, an electron-donating compound (external donor) and a solid component comprising at least one compound of a transition metal M^I selected from Ti and V and not containing $\text{M}^I\text{-}\pi$ bonds, a magnesium halide and an electron-donating compound (internal donor).
6. (original): The multi-stage process according to claim 1, wherein the porosity of the olefinic polymer obtained in the first polymerization stage (I) is greater than 10%.
7. (original): The multi-stage process according to claim 6, wherein more than 40% of said porosity is due to pores with diameter greater than 10,000 Å.
8. (original): The multi-stage process according to claim 1 wherein, in the treatment stage (II)(a), said compound capable of deactivating the catalyst used in stage (I) has formula $\text{R}^{IV}_{y-1}\text{XH}$, wherein R^{IV} is hydrogen or a $\text{C}_1\text{-C}_{10}$ hydrocarbon radical, X is O, N, or S, and y corresponds to the valence of X.
9. (original): The multi-stage process according to claim 8, wherein said compound capable of deactivating the catalyst used in stage (I) is selected from the group consisting of H_2O , NH_3 , H_2S , CO, COS, CS_2 , CO_2 and O_2 .
10. (previously presented): The multi-stage process according to claim 1 wherein, in the treatment stage (II)(b), said late transition metal complex has the formula (I) or (II):



wherein M is a metal belonging to Group 8, 9, 10 or 11 of the Periodic Table;

L is a bidentate or tridentate ligand of the formula (III):



wherein:

B is a C₁-C₅₀ bridging group linking E¹ and E², optionally containing one or more atoms belonging to Groups 13-17 of the Periodic Table;

E¹ and E², the same or different from each other, are elements belonging to Group 15 or 16 of the Periodic Table and are bonded to said metal M;

the substituents R¹, the same or different from each other, are selected from the group consisting of hydrogen, linear or branched, saturated or unsaturated C₁-C₂₀ alkyl, C₁-C₂₀ alkylidene, C₃-C₂₀ cycloalkyl, C₆-C₂₀ aryl, C₇-C₂₀ alkylaryl and C₇-C₂₀ arylalkyl radicals, optionally containing one or more atoms belonging to groups 13-17 of the Periodic Table of the Elements (such as B, Al, Si, Ge, N, P, O, S, F and Cl atoms); or two R¹ substituents attached to the same atom E¹ or E² form a saturated, unsaturated or aromatic C₄-C₈ ring, having from 4 to 20 carbon atoms; m and n are independently 0, 1 or 2, depending on the valence of E¹ and E², so to satisfy the valence number of E¹ and E²; q is the charge of the bidentate or tridentate ligand so that the oxidation state of MX_pX', or MA is satisfied, and the compound (I) or (II) is overall neutral;

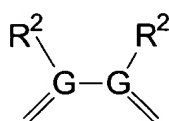
X, the same or different from each other, are monoanionic sigma ligands selected from the group consisting of hydrogen, halogen, -R, -OR, -OSO₂CF₃, -OCOR, -SR, -NR₂ and -PR₂ groups, wherein the R substituents are selected from the group consisting of linear or branched, saturated or unsaturated, C₁-C₂₀ alkyl, C₃-C₂₀ cycloalkyl, C₆-C₂₀ aryl, C₇-C₂₀ alkylaryl and C₇-C₂₀ arylalkyl radicals, optionally containing one or more atoms belonging to groups 13-17 of the Periodic Table of the Elements (new IUPAC notation); or two X groups form a metallacycle ring containing from 3 to 20 carbon atoms;

X' is a coordinating ligand selected from mono-olefins and neutral Lewis bases wherein the coordinating atom is N, P, O or S;

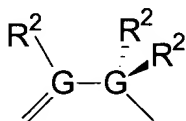
p is an integer ranging from 0 to 3, so that the final compound (I) or (II) is overall neutral;

s is an integer from 0 to 3; and A is a π -allyl or a π -benzyl group.

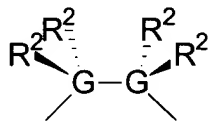
11. (original): The multi-stage process according to claim 10, wherein said bridging group B is selected from the group consisting of:



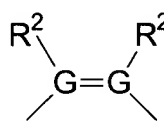
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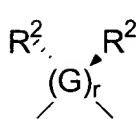
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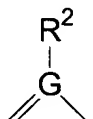
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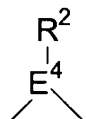
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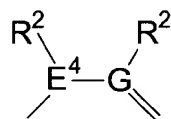
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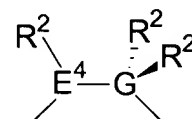
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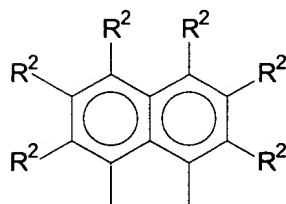
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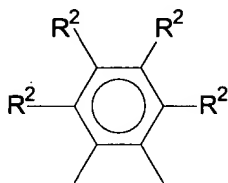
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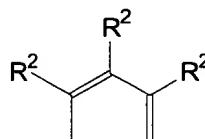
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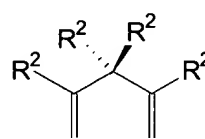
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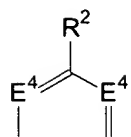
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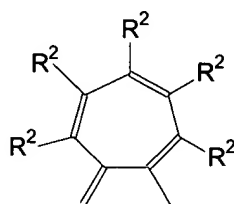
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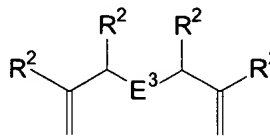
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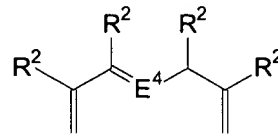
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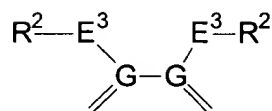
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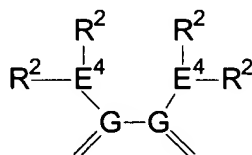
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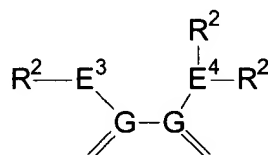
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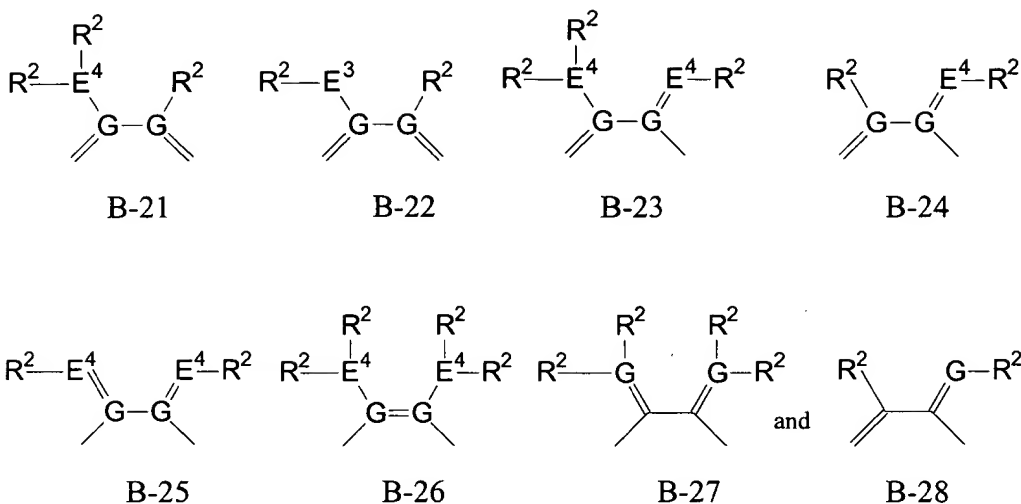
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B-19



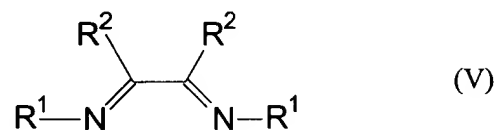
B-20



wherein G is an element belonging to Group 14 of the Periodic Table; r is an integer ranging from 1 to 5; E³ is an element belonging to Group 16 and E⁴ is an element belonging to Group 13 or 15 of the Periodic Table; the substituents R², the same or different from each other, are selected from the group consisting of hydrogen, linear or branched, saturated or unsaturated C₁-C₂₀ alkyl, C₁-C₂₀ alkoxy, C₃-C₂₀ cycloalkyl, C₆-C₂₀ aryl, C₇-C₂₀ alkylaryl and C₇-C₂₀ arylalkyl radicals, optionally containing one or more atoms belonging to groups 13-17 of the Periodic Table; or two R² substituents form a saturated, unsaturated or aromatic C₄-C₈ ring, having from 4 to 20 carbon atoms, or they form a polycyclic ring system, optionally containing one or more Group 13-16 elements; a substituent R¹ and a substituent R² may form a substituted or unsubstituted, saturated, unsaturated or aromatic C₄-C₈ ring, having from 4 to 20 carbon atoms and optionally containing one or more Group 13-16 element.

12. (original): The multi-stage process according to claim 10, wherein E¹ and E² are selected from the group consisting of N, P, O, and S.
13. (previously presented): The multi-stage process according to claim 10, wherein the substituents R¹ are C₆-C₂₀ aryl groups; the substituents X are selected from the group consisting of hydrogen, methyl, phenyl, Cl, Br and I; and p is an integer from 1 to 3.
14. (previously presented): The multi-stage process according to claim 10, wherein

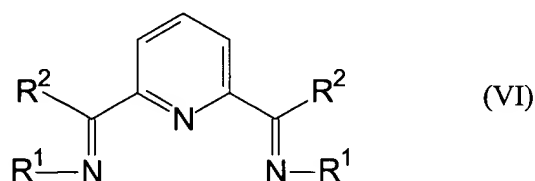
said ligand L corresponds to formula (V):



wherein R^1 has the meaning reported in claim 10; the substituents R^2 , the same or different from each other, are selected from the group consisting of hydrogen, linear or branched, saturated or unsaturated $\text{C}_1\text{--C}_{20}$ alkyl, $\text{C}_1\text{--C}_{20}$ alkoxy, $\text{C}_3\text{--C}_{20}$ cycloalkyl, $\text{C}_6\text{--C}_{20}$ aryl, $\text{C}_7\text{--C}_{20}$ alkylaryl and $\text{C}_7\text{--C}_{20}$ arylalkyl radicals, optionally containing one or more atoms belonging to groups 13-17 of the Periodic Table; or two R^2 substituents form a saturated, unsaturated or aromatic $\text{C}_4\text{--C}_8$ ring, having from 4 to 20 carbon atoms, or they form a polycyclic ring system, optionally containing one or more Group 13-16 elements; a substituent R^1 and a substituent R^2 may form a substituted or unsubstituted, saturated, unsaturated or aromatic $\text{C}_4\text{--C}_8$ ring, having from 4 to 20 carbon atoms and optionally containing one or more Group 13-16 element;

M belongs to Group 10 of the Periodic Table; X radicals are selected from the group consisting of hydrogen, methyl, Cl, Br and I; p is 2 or 3; and s is 0.

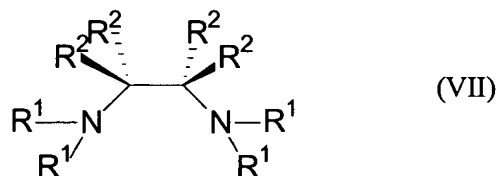
15. (previously presented): The multi-stage process according to claim 14, wherein the substituents R^1 are $\text{C}_6\text{--C}_{20}$ aryl groups, optionally substituted in the 2 and 6 positions with at least one of (a) alkyl groups containing 1 to 20 carbon atoms and (b) halo groups; the substituents R^2 are selected from the group consisting of hydrogen, methyl, ethyl, n-propyl, i-propyl and benzyl, or the two substituents R^2 form together a naphthylene group.
16. (withdrawn): The multi-stage process according to claim 10, wherein said ligand L corresponds to formula (VI):



wherein the R^1 has the meaning reported in claim 10, the substituents R^2 , the same or different from each other, are selected from the group consisting of hydrogen,

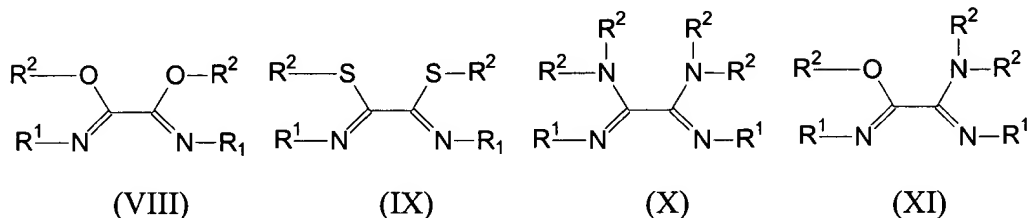
linear or branched, saturated or unsaturated C₁-C₂₀ alkyl, C₁-C₂₀ alkoxy, C₃-C₂₀ cycloalkyl, C₆-C₂₀ aryl, C₇-C₂₀ alkylaryl and C₇-C₂₀ arylalkyl radicals, optionally containing one or more atoms belonging to groups 13-17 of the Periodic Table; or two R² substituents form a saturated, unsaturated or aromatic C₄-C₈ ring, having from 4 to 20 carbon atoms, or they form a polycyclic ring system, optionally containing one or more Group 13-16 elements; a substituent R¹ and a substituent R² may form a substituted or unsubstituted, saturated, unsaturated or aromatic C₄-C₈ ring, having from 4 to 20 carbon atoms and optionally containing one or more Group 13-16 element; the metal M is Fe or Co; the X radicals are selected from the group consisting of hydrogen, methyl, Cl, Br and I; p is 2 or 3; and s is 0.

17. (withdrawn): The multi-stage process according to claim 16, wherein the substituents R² are hydrogen or methyl, and the substituents R¹ are aryl rings.
18. (withdrawn): The multi-stage process according to claim 10, wherein said ligand L corresponds to formula (VII):

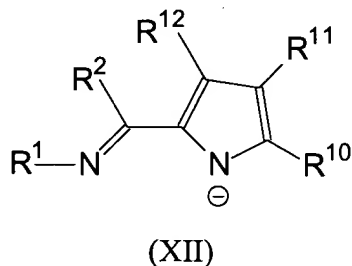


wherein R¹ has the meaning reported in claim 1, the substituents R², the same or different from each other, are selected from the group consisting of hydrogen, linear or branched, saturated or unsaturated C₁-C₂₀ alkyl, C₁-C₂₀ alkoxy, C₃-C₂₀ cycloalkyl, C₆-C₂₀ aryl, C₇-C₂₀ alkylaryl and C₇-C₂₀ arylalkyl radicals, optionally containing one or more atoms belonging to groups 13-17 of the Periodic Table; or two R² substituents form a saturated, unsaturated or aromatic C₄-C₈ ring, having from 4 to 20 carbon atoms, or they form a polycyclic ring system, optionally containing one or more Group 13-16 elements; a substituent R¹ and a substituent R² may form a substituted or unsubstituted, saturated, unsaturated or aromatic C₄-C₈ ring, having from 4 to 20 carbon atoms and optionally containing one or more Group 13-16 element; M belongs to group 10 of the Periodic Table, the X radicals are selected from the group consisting of hydrogen, methyl, Cl, Br and I; p is 2 or 3; and s is 0.

19. (withdrawn): The multi-stage process according to claim 10, wherein said ligand L corresponds to one of formulae (VIII)-(XI):



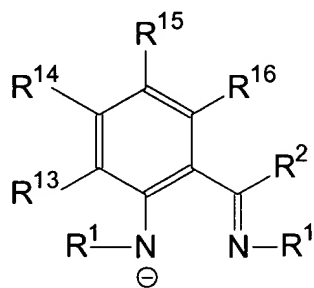
- wherein R^1 has the meaning reported in claim 10, the substituents R^2 , the same or different from each other, are selected from the group consisting of hydrogen, linear or branched, saturated or unsaturated $\text{C}_1\text{—C}_{20}$ alkyl, $\text{C}_1\text{—C}_{20}$ alkoxy, $\text{C}_3\text{—C}_{20}$ cycloalkyl, $\text{C}_6\text{—C}_{20}$ aryl, $\text{C}_7\text{—C}_{20}$ alkylaryl and $\text{C}_7\text{—C}_{20}$ arylalkyl radicals, optionally containing one or more atoms belonging to groups 13-17 of the Periodic Table; or two R^2 substituents form a saturated, unsaturated or aromatic $\text{C}_4\text{—C}_8$ ring, having from 4 to 20 carbon atoms, or they form a polycyclic ring system, optionally containing one or more Group 13-16 elements; a substituent R^1 and a substituent R^2 may form a substituted or unsubstituted, saturated, unsaturated or aromatic $\text{C}_4\text{—C}_8$ ring, having from 4 to 20 carbon atoms and optionally containing one or more Group 13-16 element; M belongs to Group 10 of the Periodic Table, the X radicals are selected from the group consisting of hydrogen, methyl, Cl, Br and I; p is 2 or 3; and s is 0.
20. (withdrawn): The multi-stage process according to claim 10, wherein said ligand L corresponds to formula (XII):



wherein R^1 has the meaning reported in claim 10; the substituents R^2 , the same or different from each other, are selected from the group consisting of hydrogen, linear or branched, saturated or unsaturated $\text{C}_1\text{—C}_{20}$ alkyl, $\text{C}_1\text{—C}_{20}$ alkoxy, $\text{C}_3\text{—C}_{20}$ cycloalkyl, $\text{C}_6\text{—C}_{20}$ aryl, $\text{C}_7\text{—C}_{20}$ alkylaryl and $\text{C}_7\text{—C}_{20}$ arylalkyl radicals, optionally containing one or more atoms belonging to groups 13-17 of the Periodic Table; or

two R^2 substituents form a saturated, unsaturated or aromatic C_4 - C_8 ring, having from 4 to 20 carbon atoms, or they form a polycyclic ring system, optionally containing one or more Group 13-16 elements; a substituent R^1 and a substituent R^2 may form a substituted or unsubstituted, saturated, unsaturated or aromatic C_4 - C_8 ring, having from 4 to 20 carbon atoms and optionally containing one or more Group 13-16 element; R^{10} - R^{12} , the same or different from each other, are selected from the group consisting of hydrogen, linear or branched, saturated or unsaturated C_1 - C_{20} alkyl, C_3 - C_{20} cycloalkyl, C_6 - C_{20} aryl, C_7 - C_{20} alkylaryl and C_7 - C_{20} arylalkyl radicals, optionally containing one or more atoms belonging to groups 13-17 of the Periodic Table; or two adjacent substituents R^{10} - R^{12} form a saturated, unsaturated or aromatic C_4 - C_8 ring, having from 4 to 40 carbon atoms; the metal M is selected from the group consisting of Fe, Co, Rh, Ni and Pd; the X radicals are selected from the group consisting of hydrogen, methyl, Cl, Br and I; p is 2 or 3; and s is 0.

21. (withdrawn): The multi-stage process according to claim 10, wherein said ligand L corresponds to formula (XIII):

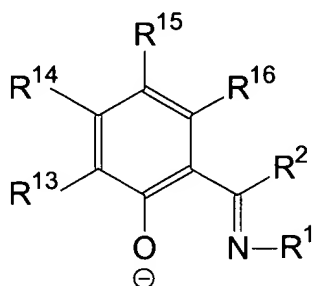


(XIII)

wherein R^1 has the meaning reported in claim 10; the substituents R^2 , the same or different from each other, are selected from the group consisting of hydrogen, linear or branched, saturated or unsaturated C_1 - C_{20} alkyl, C_1 - C_{20} alkoxy, C_3 - C_{20} cycloalkyl, C_6 - C_{20} aryl, C_7 - C_{20} alkylaryl and C_7 - C_{20} arylalkyl radicals, optionally containing one or more atoms belonging to groups 13-17 of the Periodic Table; or two R^2 substituents form a saturated, unsaturated or aromatic C_4 - C_8 ring, having from 4 to 20 carbon atoms, or they form a polycyclic ring system, optionally containing one or more Group 13-16 elements; a substituent R^1 and a substituent

R^2 may form a substituted or unsubstituted, saturated, unsaturated or aromatic C_4 - C_8 ring, having from 4 to 20 carbon atoms and optionally containing one or more Group 13-16 element; the substituents R^{14} and R^{16} , the same or different from each other, are selected from the group consisting of hydrogen, linear or branched, saturated or unsaturated C_1 - C_{20} alkyl, C_3 - C_{20} cycloalkyl, C_6 - C_{20} aryl, C_7 - C_{20} alkylaryl and C_7 - C_{20} arylalkyl radicals, optionally containing one or more atoms belonging to groups 13-17 of the Periodic Table; the substituents R^{13} and R^{15} , the same or different from each other, have the same meaning as substituents R^{14} and R^{16} , optionally forming with an adjacent substituent R^{14} or R^{16} a saturated, unsaturated or aromatic C_4 - C_8 ring, or they are electron withdrawing groups; the metal M is selected from the group consisting of Fe, Co, Ni and Pd; the X radicals are selected from the group consisting of hydrogen, methyl, Cl, Br and I; p is 2 or 3; and s is 0.

22. (withdrawn): The multi-stage process according to claim 10, wherein said ligand L corresponds to formula (XIV):

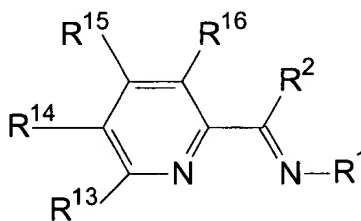


(XIV)

wherein R^1 has the meaning reported in claim 10; the substituents R^2 , the same or different from each other, are selected from the group consisting of hydrogen, linear or branched, saturated or unsaturated C_1 - C_{20} alkyl, C_1 - C_{20} alkoxy, C_3 - C_{20} cycloalkyl, C_6 - C_{20} aryl, C_7 - C_{20} alkylaryl and C_7 - C_{20} arylalkyl radicals, optionally containing one or more atoms belonging to groups 13-17 of the Periodic Table; or two R^2 substituents form a saturated, unsaturated or aromatic C_4 - C_8 ring, having from 4 to 20 carbon atoms, or they form a polycyclic ring system, optionally containing one or more Group 13-16 elements; a substituent R^1 and a substituent R^2 may form a substituted or unsubstituted, saturated, unsaturated or aromatic C_4 -

C₈ ring, having from 4 to 20 carbon atoms and optionally containing one or more Group 13-16 element; R¹⁴ and R¹⁶, the same or different from each other, are selected from the group consisting of hydrogen, linear or branched, saturated or unsaturated C₁-C₂₀ alkyl, C₃-C₂₀ cycloalkyl, C₆-C₂₀ aryl, C₇-C₂₀ alkylaryl and C₇-C₂₀ arylalkyl radical, optionally containing one or more atoms belonging to groups 13-17 of the Periodic Table; R¹³ and R¹⁵, the same or different from each other, have the same meaning as R¹⁴ and R¹⁶, optionally forming with an adjacent R¹⁴ or R¹⁶ a saturated, unsaturated or aromatic C₄-C₈ ring, or they are electron withdrawing groups; the metal M belongs to Group 10 of the Periodic Table, the X radicals are selected from hydrogen, methyl, allyl, Cl, Br and I, A is a C₃-C₅ linear allyl, p is 1 and s is 1.

23. (withdrawn): The multi-stage process according to claim 22 wherein, in said ligand of formula (XIV), R¹ is aryl, substituted in at least one of the 2, 6 and 4 positions with a substituent selected from the group consisting of halogen, linear or branched C₁-C₂₀ alkyl groups, and a tertiary C₃-C₆ alkyl group; R² is hydrogen or methyl; R¹⁴ and R¹⁶ are selected from the group consisting of hydrogen, methyl and methoxy; R¹³ is selected from the group consisting of aryl, substituted in the 2 and 6 positions with branched C₃-C₃₀ alkyl groups, tertiary C₃-C₆ alkyl group, -NO₂ and halo; and R¹⁵ is selected from the group consisting of aryl, tertiary C₃-C₆ alkyl group, -NO₂, halo, -CF₃, -SO₃⁻, -SO₂R and -COO⁻.
24. (withdrawn): The multi-stage process according to claim 10, wherein said ligand L corresponds to formula (XV):



(XV)

wherein R¹ has the meaning reported in claim 10; the substituents R², the same or different from each other, are selected from the group consisting of hydrogen, linear or branched, saturated or unsaturated C₁-C₂₀ alkyl, C₁-C₂₀ alkoxy, C₃-C₂₀ cycloalkyl, C₆-C₂₀ aryl, C₇-C₂₀ alkylaryl and C₇-C₂₀ arylalkyl radicals, optionally

containing one or more atoms belonging to groups 13-17 of the Periodic Table; or two R² substituents form a saturated, unsaturated or aromatic C₄-C₈ ring, having from 4 to 20 carbon atoms, or they form a polycyclic ring system, optionally containing one or more Group 13-16 elements; a substituent R¹ and a substituent R² may form a substituted or unsubstituted, saturated, unsaturated or aromatic C₄-C₈ ring, having from 4 to 20 carbon atoms and optionally containing one or more Group 13-16 element; the substituents R¹⁴ and R¹⁶, the same or different from each other, are selected from the group consisting of hydrogen, linear or branched, saturated or unsaturated C₁-C₂₀ alkyl, C₃-C₂₀ cycloalkyl, C₆-C₂₀ aryl, C₇-C₂₀ alkylaryl and C₇-C₂₀ arylalkyl radicals, optionally containing one or more atoms belonging to groups 13-17 of the Periodic Table; the substituents R¹³ and R¹⁵, the same or different from each other, have the same meaning of substituents R¹⁴ and R¹⁶, optionally forming with an adjacent substituent R¹⁴ or R¹⁶ a saturated, unsaturated or aromatic C₄-C₈ ring, or they are electron withdrawing groups; the metal M belongs to Group 10 of the Periodic Table; the X radicals are selected from the group consisting of hydrogen, methyl, Cl, Br and I, p is 2 or 3, and s is 0.

25. (withdrawn): The multi-stage process according to claim 1 wherein, in the treatment stage (II)(b), said activating agent is at least one of (a) an alumoxane and (b) a compound able to form an alkylmetal cation.
26. (withdrawn): The multi stage process according to claim 1 wherein, in the treatment stage (II), the product obtained in the first polymerization stage (I) is, in the following order:
 - (a) first contacted with said compound capable of deactivating the catalyst used in stage (I); and
 - (b) then contacted with said late transition metal complex, optionally in the presence of a suitable activating agent.
27. (withdrawn): The multi-stage process according to claim 26 wherein, before step (b), any excess of said compound capable of deactivating the catalyst used in stage (I) is removed.

28. (withdrawn): The multi-stage process according to claim 1, wherein the polymerization stage (I) is carried out in liquid phase, said liquid phase consisting of a hydrocarbon solvent or of one or more olefins $\text{CH}_2=\text{CHR}$, and the polymerization stage (III) is carried out in gas phase, in at least one reactor with a fluidized bed or a mechanically-agitated bed.
29. (withdrawn): The multi-stage process according to claim 1, wherein both polymerization stages (I) and (III) are carried out in gas phase, in reactors with a fluidized bed or a mechanically-agitated bed.
30. (withdrawn): A catalyst component for the polymerization of olefins comprising a late transition metal complex supported on a polymeric porous support having a porosity, expressed as percentage of voids, greater than 5%.
31. (withdrawn): A catalyst component for the polymerization of olefins comprising a late transition metal complex supported on a polymeric porous support having a porosity, expressed as percentage of voids, greater than 5%, said catalyst component being obtained by a process comprising:
- (I) a polymerization stage, wherein one or more olefins of formula $\text{CH}_2=\text{CHR}$, wherein R is selected from the group consisting of hydrogen, a linear or branched, saturated or unsaturated $\text{C}_1\text{-C}_{10}$ alkyl, a cycloalkyl and an aryl radical, in the presence of a catalyst comprising the product of the reaction between one or more alkyl-Al compounds and a solid component comprising at least one compound of a transition metal M^{I} chosen from Ti and V, and not containing $\text{M}^{\text{I}}\text{-}\pi$ bonds, and a halide of Mg;
 - (II) a treatment stage, wherein the product obtained in the polymerization stage (I) is, in any order:
 - (a) optionally contacted with one or more compounds capable of deactivating the catalyst used in step (I); and
 - (b) contacted with one or more late transition metal complexes, optionally in the presence of a suitable activating agent.
32. (withdrawn): The catalyst component according to claim 30, wherein said late transition metal complex is supported in a quantity from $1\cdot 10^{-7}$ to $1\cdot 10^{-1}$ mmol per gram of polymeric porous support.

33. (withdrawn): The catalyst component according to claim 30, wherein said polymeric porous support has a porosity greater than 10%.
34. (withdrawn): The catalyst component according to claim 33, wherein more than 40% of the porosity is due to pores with diameter greater than 10,000 Å.
35. (withdrawn): A polymer composition obtained by the process of claim 1, characterized in that:
- in said first polymerization stage a homo or copolymer of propylene is obtained, having a content of propylene units greater than 80 wt.% and cold xylene soluble fractions less than 40 wt.%, said homo or copolymer of propylene consisting of 10-90 wt.% of the total amount of polymer; and
 - in said second polymerization stage amorphous polyethylene is produced, having a number of total branching greater than 50 branches/1000 carbon atoms, a density from 0.830 to 0.880 g/cm², and a Tg value less than -30°C.
36. (withdrawn): A polymer composition obtained by the process of claim 1, characterized in that:
- in said first polymerization stage polyethylene, polypropylene or propylene/ethylene copolymer is produced, consisting of 10-90 wt.% of the total amount of polymer; and
 - in said second polymerization stage block polyethylene is produced, having a melting point from 100 to 130°C and a Tg value less than -30°C.
37. (withdrawn): A polymer composition obtained by the process of claim 1, characterized in that:
- in said first polymerization stage, a copolymer of ethylene with one or more α -olefins (LLDPE) is obtained, having a content of ethylene units of 80-99 wt.%, said copolymer of ethylene consisting of 10-90 wt.% of the total amount of polymer;
 - in the second polymerization stage, polyethylene is produced having a number of total branching greater than 5 branches/1000 carbon atoms and a density greater than 0.880 g/cm³.

38. (withdrawn): The catalyst component according to claim 31, wherein said late transition metal complex is supported in a quantity from $1 \cdot 10^{-7}$ to $1 \cdot 10^{-1}$ mmol per gram of polymeric porous support.
39. (withdrawn): The catalyst component according to claim 31, wherein said polymeric porous support has a porosity greater than 10%.
40. (withdrawn): The catalyst component according to claim 39, wherein said polymeric porous support has a porosity greater than 10%.